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Research Article

A Phenomenological Inquiry into Post-Traumatic Growth Among Nurses Who Worked on the Frontline of COVID-19

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Abstract

Objective: Research has demonstrated significant adverse psychological outcomes among nurses working on the frontline during the COVID-19 pandemic. However, some nurses also experienced post-traumatic growth (PTG) while navigating these experiences. This study aimed to identify the key elements that facilitated PTG among nurses who worked on the frontline in the UK during the pandemic and to explore what nurses believed policymakers and practitioners could do to support growth in others negatively affected by frontline work.

Methods: A qualitative design was used to explore participants' subjective lived experiences. Twelve nurses who had worked closely with COVID-19 patients in UK hospitals were recruited through professional organisations, nursing support groups, professional and personal networks, participant snowballing, and NHS Staff Wellbeing Hubs. Data were collected through semi-structured interviews and analysed using Template Analysis, guided initially by an a priori coding template derived from existing PTG literature while allowing themes to emerge inductively from participants' accounts.

Results: Four top-level themes were identified: individual characteristics, coping strategies, organisational and environmental considerations, and interpersonal factors. Participants described reflective and self-aware qualities, compassion, advocacy, previous experiences of difficulty, and work-related characteristics as relevant to their experiences of growth. Coping mechanisms included boundary setting, mindfulness, avoidance, emotional numbness, and consideration of mortality. Organisational and environmental factors included camaraderie, moments of joy, opportunities for learning and development, good leadership, and access to psychological support. Interpersonal factors included professional and personal relationships, community acts of kindness, and appropriate psychological support. Participants also identified the importance of long-term support, improved access to psychological services, and changes to aspects of NHS culture.

Conclusion: PTG among frontline nurses appears to involve an interaction between individual characteristics, coping strategies, relationships, and the organisational and environmental context. The findings suggest that support should be responsive to individual needs and should provide opportunities for nurses to process and make meaning of distressing experiences. Trauma-informed leadership, appropriate

psychological support, and opportunities for reflection and debriefing may help support nurses following experiences of frontline work.

Keywords: COVID-19, nurses, post-traumatic growth, trauma, template analysis, frontline, qualitative, phenomenology

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1 INTRODUCTION

Whilst research provides evidence for the traumatisation of frontline nurses worldwide, there remains limited research that specifically focuses on the negative impact of working on the frontline in the UK. Nurses in the UK faced a unique set of challenges, including their employment by the National Health Service (NHS), with its specific work culture, a delayed governmental response, the large-scale redeployment of staff, and the fourth lowest number of hospital beds among G-20 countries[1-4]. Furthermore, COVID-19 emerged while the UK nursing workforce was already experiencing a high level of strain, leading to reports of decreased job satisfaction, burnout, and difficulties with retention and recruitment, which have been exacerbated by inadequate remuneration and opportunities for progression as well as excessive workloads[5,6]. There is a need for research that can guide the design and delivery of services aimed at alleviating the adverse psychological outcomes of having worked on the frontline.

1.1 Growth Following Trauma

Several studies have investigated growth following trauma among nurses during COVID-19. Much of the evidence has originated from studies undertaken in China with findings indicating the presence of post-traumatic growth (PTG) in healthcare workers (HCWs). The key domains of PTG for this population include increased appreciation of life, improved relationships, and personal strength[7]. Feingold et al.'s study[7] also found that spiritual growth led to lower odds of presenting with pandemic-related post-traumatic stress disorder (PTSD) and that an improvement in personal relationships was associated with lower odds of developing burnout. Furthermore, research in China identified four types of PTG trajectory: persistent high with drop, fluctuated rise, steady increase, and persistent low type. Persistent categories were associated with higher education and older age, while the persistent low type was negatively associated with resilience[8]. These findings highlight the role of specific individual characteristics in the development of PTG and the importance of measuring growth over time to gain a complete understanding of the phenomenon.

Other studies conducted in China[9-13], Korea[14], and Turkey[15] have specifically examined PTG in the nursing population during the pandemic. Cui et al.[10] surveyed 167 nurses in China, finding that PTG was at a medium to high level, influenced by factors like years of work, work-related self-confidence, risk awareness, deliberate rumination, and psychological training. These findings suggest the importance of strengthening guidance and training for nurses to promote positive outcomes. Atay et al.[15] found a significant relationship between PTG and resilience (using established inventories) in a sample of 263 nurses working in Istanbul. Similarly, Yeung et al.[13] examined COVID-related worries, work variables, and socio-demographic characteristics associated with PTG among 1,510 nurses in Hong Kong. Results indicated that those working part-time, affiliated with a religion, and with higher COVID-19-related worries, distress, and work satisfaction reported higher levels of PTG.

Furthermore, studies focusing specifically on factors associated with developing PTG in nurses provide insight into factors relevant for this population. Peng et al.[12] studied 116 frontline nurses in China using the PTGI scale and found that gender, age, educational level, professional title, and professional psychological support were not statistically associated with PTG scores, while social support, psychological comfort, and having children were. Another study in China found that social support and professional identity were key factors affecting stress levels and PTG development[11]. Finally, Han et al.[14] used a descriptive survey of 250 nurses in Korean hospitals and identified resilience, meaning in life, self-disclosure, deliberate rumination, marriage status, and religion as significant factors influencing PTG.

While these studies highlight PTG in the global nursing population, none have specifically examined UK nurses. As such, a thorough understanding of factors influencing PTG development in this population is still missing from the literature. UK nurses have faced unique challenges contributing to their difficulties following frontline work, including the NHS's specific work culture and the delayed governmental response[2], as well as pre-existing issues related to excessive workloads, burnout, and staff retention[5,6]. To date, only one UK study has examined the incidence of PTG in HCWs working on the frontline. This study identified a number of independent predictors for PTG, including positive self-reflection activities, developing new knowledge and skills, connecting with others, feeling

supported by management and the general population, and individual anxiety about COVID-19[16]. These findings underscore the importance of considering organisational factors in supporting staff post-pandemic.

1.2 Rationale for the Current Study

Given the gap in the literature, the present study explored the experiences of UK nurses who worked in hospitals during COVID-19 and identified with having experienced growth or positive transformative change as a direct result of undertaking their professional duties. Previous research suggests that nurses working on the frontline of the pandemic report significantly higher levels of PTG than nurses working in non-COVID-19 ICU settings[17]. The pandemic may have had a more profound impact on growth following trauma than exposure to other traumatic events, making it particularly important for nurses who have worked on the frontline. Similarly, much of the available research on PTG in this population to date is quantitative or primarily focused on corroborating dominant models, giving less attention to lived experience and an understanding of how context influences PTG. It is proposed that the best way to elicit this knowledge is by looking at how individuals make sense of their experiences in their own words, using qualitative inquiry to discover new insights.

The emphasis on narrative development and disclosure in PTG suggests that investigating this phenomenon by speaking with individuals who have experienced it is an appropriate method of inquiry. This method assumes that individuals who have experienced a particular phenomenon are best placed to communicate it to others. Given the emotionally charged nature of this topic, using semi-structured interviews allows for a deeper understanding of the phenomenon. This approach allows for experiences that participants may not have fully understood to come to light during the interview process.

The overriding aim of this study was therefore to identify critical elements that facilitated PTG in nurses who worked on the frontline in the UK during the pandemic. A secondary aim was to develop an understanding of what these nurses believed policymakers and practitioners could do to help bring about PTG for other nurses negatively affected by their work on the frontline.

2 MATERIALS AND METHODS

Philosophical underpinnings are essential to psychological research, allowing researchers to reflect on how they understand their social world, providing insight into the methodology undertaken and offering readers an awareness of the influence of ideas on the knowledge generated[18]. Different philosophical ideas reflect differing interpretations of ontology (the nature of reality), epistemology (the construction of knowledge), and axiology (the values held by the researcher). Qualitative research focuses on human beings as meaning-makers, examining how the social world is experienced and phenomenologically understood[19]. Employing in-depth, semi-structured interviews to study first-person accounts of subjective lived experience provides non-reductionistic, rich data. This study explored experiential first-person accounts while maintaining a recognition that such an attempt involves interpretation.

Template analysis (TeA) was the method chosen for this study as it is a flexible form of thematic analysis that emphasises the use of hierarchical coding but also balances its high degree of structure with flexibility to adapt to the research needs. Rather than being a distinct methodology, TeA refers to a set of techniques for thematically analysing qualitative data. The essence of TeA is that the researcher compiles a template (a list of codes) that represents themes identified in the data[20]. TeA can be used flexibly within a range of epistemological positions[21] to suit the researcher's stance on knowledge. Given the subtle realist assumptions and beliefs held here[22], TeA was considered an appropriate methodology for this research.

A key advantage of TeA is the ability to use *a priori* themes[23], referring to a list of themes that can be developed from an initial analysis of a subsection of the data or created before data engagement, based on existing knowledge from the field. For this study, an *a priori* coding template was developed in advance, due to the large body of knowledge on PTG. The research aimed to build on existing knowledge but not necessarily corroborate existing theories. A list of codes was compiled based on themes highlighted in the literature and used to guide the data analysis. Crucially, TeA allows for flexibility in using *a priori* codes, meaning that codes/themes were redefined or removed if they did not align with the data obtained. In this way, the new knowledge generated by this study adds to the existing literature by examining how the generated themes either fit the template, based on prior knowledge, or deviated through the identification of new additions in the accounts.

2.1 Participants

TeA does not prescribe a specific number of participants, but analysis across cases can sometimes reduce the richness of the data. To mitigate this, a small sample size of 12 participants was selected. Lengthy interviews with phenomenologically open-ended questions were used to combine cross-case analysis with individual case summaries. The study sought a homogenous sample to investigate the unique context and experience of the participants. After receiving expressions of interest, a phone conversation was set up to assess participation eligibility.

Eligible participants met the following criteria: they worked closely with COVID patients; in a UK hospital (in line with research that indicated these workers were

most likely to suffer the adverse effects of their work[24]; for six months, as research suggests this is sufficient time to experience work-related trauma[25-27]; prior to March 2021, the period with the highest UK hospitalisation rates, to allow time for growth[28]; and identified with having experienced professional or personal growth due to their work. Participants also needed to speak English at a level that allowed them to share their experiences clearly.

Of the 12 participants, two were male, and the remaining participants were female. Their average age was 42 years, and they had spent an average of 16 years in nursing. Three participants worked in A&E, ITU, and critical care before the pandemic, while others worked in oncology, gastroenterology, and resuscitation. One nurse was a specialist nurse practitioner, another a charge nurse, and another occupied a managerial role in ITU. All nurses interviewed either worked or were redeployed to the frontline in ITU, admissions, or critical care positions. Additionally, one participant volunteered at the temporary COVID hospital in London. Half of the participants reported that they had accessed support, while the other half had not. Reasons for accessing support varied and were not limited to difficulties experienced during the pandemic.

2.2 Procedure

Participants were recruited through multiple routes, including professional nursing organisations (the Royal College of Nursing and Frontline 19), UK nurse support groups on LinkedIn and Facebook, professional and personal networks, participant snowballing, and NHS Staff Wellbeing Hubs. Participants self-selected by registering their interest via email or through a spreadsheet linked to a QR code on the study flyer. Over 40 expressions of interest were received through the Wellbeing Hubs, from which 12 participants were selected following telephone screening. Eligible participants had worked closely with COVID-19 patients in a UK hospital for at least six months prior to March 2021 and identified with having experienced professional or personal growth associated with their frontline work. Five participants were Professional Nurse Advocates, reflecting the recruitment route through the Wellbeing Hubs. An initial phone call took place to assess eligibility based on screening questions. The risk of participation (namely the possibility of re-traumatisation), the limits of confidentiality (in the event of risk of harm), and study ethics were discussed, and participants were asked to carefully consider whether or not they would like to participate. Following the call, participants received an email with pertinent participation information: a consent form, information sheet, and demographic questionnaire. Participants signed the consent form before participating. They were then sent a Zoom link and password to access the meeting.

The relatively experienced sample may also have influenced the findings. Participants had a mean of 16 years' nursing experience, and several described drawing on coping strategies developed through previous personal or professional difficulties. This prior experience may have supported resilience and coping during the pandemic, although the small sample and qualitative design do not allow its contribution to PTG to be determined.

2.3 Interviews

A semi-structured interview schedule was employed based on the study's aims in developing an experiential understanding of individual subjective lived experience, designed to facilitate exploration by encouraging open conversation. The schedule comprised open-ended questions, with prompts used flexibly to facilitate fuller understanding or assist participants if they felt stuck (Appendix 1). Participants were offered a definition of PTG to help them understand the phenomenon under investigation. The first two interviews were conducted as pilots to ensure that the methodology and questions worked smoothly and obtained the required knowledge. As the questions elicited the needed information, and feedback received from the debriefing questionnaire was positive, no significant changes were made, and the pilot interviews were included in the final analysis.

Interviews were transcribed verbatim, involving repeated careful listening to ensure accuracy. Since transcription is itself an interpretive act, the level of detail to include was determined based on what was most fundamental to the analysis and interpretation of the data[29]. Simple transcription included verbal and non-verbal communication cues such as pauses, laughter, and crying, as these elements added meaning to the interpretation. While TeA is a systematic way to code data, it is also flexible and adaptable to research needs[20]. Though TeA allows the use of an *a priori* coding template, this is not obligatory. However, given the pre-existing knowledge about PTG, a comprehensive *a priori* template was developed ahead of engagement with the data to guide the analysis. This approach aimed to leverage the existing knowledge on PTG development to enhance rigor and transparency.

To construct the template, themes from two primary theories of growth following trauma—Joseph and Linley's[30] OVT of adversarial growth and Tedeschi and Calhoun's[31] FDM—were included. Additionally, several themes were identified through a literature search on factors influencing PTG development. Given the vast body of literature, only factors relevant to this study were included. These were drawn from research on:

Nurses who worked on the frontline during the pandemic[10,11,14];

Similar populations who experienced trauma as a result of their professional duties, such as doctors[32], HCWs[33], and firefighters[34];

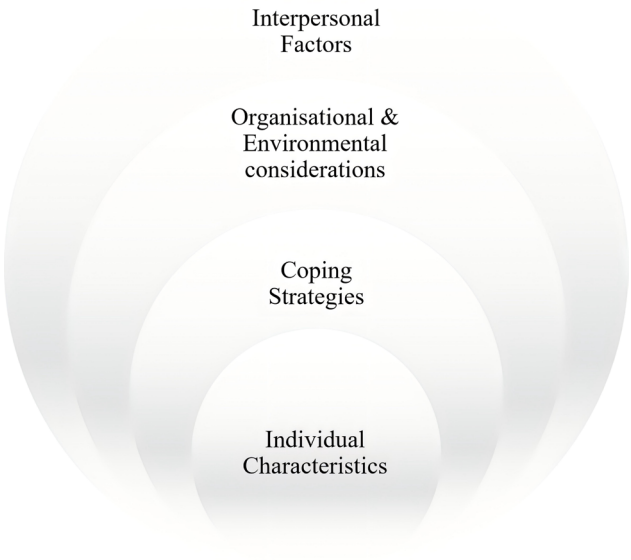


Figure 1. Top Level Themes of PTG Development Identified in the Study.

The general population, but related to COVID[35];

Meta-analyses or systematic reviews of findings in nurses[17] or the general population[36,37];

Areas identified as of interest in PTG development by multiple studies, including coping mechanisms[38] and religion[39].

Following the development of the *a priori* coding template and the transcription of accounts, data were analysed following the main procedural steps outlined by King[40].

3 RESULTS

The first open-ended research question, *'Please tell me about your experience on the frontline,'* provided rich data about the participants' experiences working on the frontline. The contextual understanding afforded by this peripheral data facilitates a more nuanced understanding of the findings obtained, contributing to the discussion of the findings. While this information is not directly relevant to the research questions, it provides context to the findings and contributes to a more comprehensive understanding of the trauma experienced by the participants. They described the nature of their work, the harsh conditions on the frontline, and the high death rates they witnessed. Participants also spoke about the negative psychological impact of working on the frontline and how it affected their well-being, as well as the lack of support many felt they received. Across the transcripts, participants used metaphors like military references and tsunamis to describe their experiences. Furthermore, participants reflected on how their experience of growth following trauma led to a re-evaluation of their lives and values. For some, this led to career changes, and for others, it prompted a shift in perspective on what is most important in life. For most, this was exemplified by a renewed focus on personal relationships over work. While no participant left the nursing field, several transitioned into different roles within it. Some participants also discovered new strengths, developed a deeper understanding of themselves, and adopted new coping strategies.

Regarding the primary aim of this research—identifying the key elements that facilitated PTG development—Figure 1 illustrates the four top-level themes identified in the data. It demonstrates how the various themes correspond to individual experiences. The findings from this research suggest that PTG development is best understood by considering both the individual's internal landscape and the context and environment in which they operate. Participants did not operate in isolation. All of them worked for the UK NHS, which has a distinctive culture and set of practices. Moreover, the NHS operates within a societal context that was significantly affected by the COVID-19 pandemic. The pandemic can be viewed as a unique historical moment, where nearly every person in society was impacted in some way. Thus, it has become part of the participants' subjective experiences. Figure 1 conceptualises the relationship between individual and external themes of PTG development and how these elements can be understood.

3.1 Facilitating PTG Development

The themes identified in the data were organised into meaningful clusters based on their relationships with one another and the five main hierarchical themes set out in the *a priori* coding template (interpersonal factors, environmental considerations, coping strategies, individual characteristics, and religion). As new themes emerged from inductive analysis, the template was modified to accommodate them. This iterative process continued until a final template was developed that represented the data and addressed the primary research question: What are the key elements that facilitated PTG development for this population sample?

Four top-level hierarchical themes were identified through deductive analysis based initially on the *a priori* template. These themes aimed to address the primary research question by distinguishing the important individual characteristics, coping strategies, organisational and environmental considerations, and interpersonal factors that were relevant to the development of PTG in this population. Additionally, 13 themes, with 41 subthemes, were extracted from the data. Inductive analysis helped identify any new themes emerging from the data that were absent from the original *a priori* coding template. Each theme is discussed below, with excerpts from the transcripts providing a clearer understanding of the individual themes.

Support was found in participants' accounts for four top-level hierarchical themes: individual characteristics, coping strategies, organisational and environmental considerations,

Table 1. Final Template

Top-level Themes	Themes and Subthemes
Individual characteristics	Individual Nature
	Resilience
	Optimism
	Subjectively lucky
	Compassion
	Reflective & self-aware
	Advocate
	Work related characteristics
	Self-efficacy
	Dedication to role
	Sense of duty
	Previous experience of difficulty & development of coping mechanisms
	Work related
	Non-work related
Coping strategies	Problem-focused coping
	Disclosure
	Help seeking
	Boundary Setting
	Emotion-focused coping
	Emotional numbness
	Avoidance
	Mindfulness activities
	Meaning-focused rumination
	Challenging core beliefs
	Self-Identity
	Personal Values
	Narrative development
	Cognitive re-appraisal
	Positive re-interpretation
	Consideration of mortality
	Spiritual coping
Organisational and environmental considerations	Environment that satisfies needs
	Competence
	Autonomy
	Camaraderie
	Moments of joy
	Meaningful work
	Opportunities
	Learning
	Professional development
	Access to psychological support
	Provides recognition of value
	Good leadership
	Support
	Listens to staff
	Leads by example
	Provides direction
	Recognition of difficulty
Interpersonal factors	Relational support
	Professional relationships
	Personal relationships
	Supportive others
	Community acts of kindness
	Appropriate professional psychological support

and interpersonal factors. These findings provide insight into the social and psychological elements present in the participants' accounts that facilitated PTG development. They support the Counselling Psychology (CoP) position that a deep understanding of lived experience must take context into account. This suggests that the key elements contributing to participants' experiences of growth derived from both their internal world and the environment in which they operated during the pandemic.

The secondary research question was concerned with what participants believed policymakers and practitioners

could do to help foster PTG in other nurses negatively affected by their frontline work. Instead of a detailed analysis, the study aimed to capture and present all the suggested interventions that participants put forward. Many participants shared similar views on what support policymakers could offer to promote PTG among nurses in the aftermath of the pandemic. These suggestions included the provision of, and access to, support and training initiatives, as well as considering more fundamental changes, such as revising what several participants termed the 'culture of blame' within the NHS. They also addressed the stigma surrounding mental health in the profession and suggested that support from senior management could be critical in fostering long-term change. Several participants highlighted the potential benefits of incorporating practices from other fields, such as clinical supervision, into nursing. These proposed initiatives aligned with many themes identified in the final template for the primary aim of this study, including the importance of staff psychology, the role of training and development practices in fostering growth, and the desire to see greater camaraderie and social support within their organisations.

4 DISCUSSION

4.1 Individual Characteristics

Several common themes concerning the individual characteristics of participants were identified in the transcripts and across both the *a priori* and final templates. Participants demonstrated optimism and resilience, consistent with previous PTG research[41]. Resilience, the ability to bounce back from difficulty, has been shown to influence PTG development[14,17,42,43] and may be of particular importance for nurses[44,45]. Nurses often face emotionally challenging situations in their duties, and the literature suggests that resilience can be developed and enhanced through work-based educational interventions[46]. It is also possible that the resilience nurses possess, and perhaps the reason they are drawn to the profession, stems from prior experiences of difficulty. However, it should also be noted that resilience is often demonstrated as an outcome of PTG[47]. Since participants in this study identified with the idea of having experienced PTG, they may have reflected on their experiences with a new understanding. This criticism of PTG[48] is relevant to several themes identified in the study and will be discussed further in the following sections.

Optimism was another trait that emerged from participants' accounts, supporting previous findings from PTG development research[33,41]. Although the content of optimistic beliefs varied, there was a general sense of trying to find positivity in their experiences. One participant noted that in nursing, a bad day could still be regarded as positive if no one died. Such statements provide insight into the realities of working in this vocation, even in normal times, and the importance of maintaining hope in growth development. This also suggests that interventions designed to help nurses develop growth after the pandemic should include positive self-reflection activities, which have proven effective in eliciting PTG in UK HCWs during the pandemic[16].

The theme of 'subjectively lucky' emerged as well, exemplifying a sense shared by participants that, despite the challenges, working on the frontline was a fortunate experience compared to the isolation experienced by the general population. In going to work, they gained a sense of purpose and social connection that those isolated at home could not access. Viewing their position favorably may have served a protective function. Research suggests that the feeling of luck can positively predict growth[49]. While the theme of subjectively lucky is similar to that of subjective well-being, a theme identified in the *a priori* coding template[33,50], it was modified to accurately reflect the observations in the data.

Alongside these similarities to the *a priori* template, several differences and new themes were identified, including reflective self-awareness and advocacy. These themes provide insight into the subjective uniqueness and experiences of this population. Reflective self-awareness denotes the tendency to reflect on prior experiences and gain knowledge of oneself as a result. This finding supports existing evidence about the importance of self-reflection for HCWs in the UK after working on the frontline[16]. Given the role of self-knowledge in meaning-making, this finding is not surprising[31]. While growth may have fostered this self-knowledge, participants' transcripts suggested that this tendency toward self-reflection was an attribute they possessed before encountering frontline difficulties. Moreover, self-awareness, an outcome of personal self-reflection, has been shown to be an important tool in effective nurse–patient relationships[51]. Of particular significance to this study, self-awareness has been shown to predict beneficial outcomes[52] and is considered a key therapeutic aim[53]. Studies suggest that interventions focused on self-awareness, such as self-reflection and mindfulness-based practices, can significantly enhance PTG by helping individuals process and integrate their traumatic experiences[54,55]. These practices improve resilience and emotional regulation, which facilitates growth and meaning after trauma.

Advocacy—denoting the ability to speak up for oneself and others—was another theme that emerged from this research. Participants described standing up for patients, colleagues, and themselves in situations of unfair treatment. For instance, one nurse fought to help colleagues and patients by unlocking a controlled drug cupboard. Amid the chaos of frontline work, nurses supported each other while facing highly challenging circumstances that required them to take on new roles and responsibilities. The identification

of this theme, as one interviewee suggested, may not be surprising for nurses who are often patient advocates. However, the pandemic may have underscored their need to advocate for themselves and their colleagues as well.

Another modified theme from the *a priori* template, based on existing research[33], was that of self-compassion. Being kind to oneself has been shown to reduce the tendency to over-identify with negative emotions[56]. In this study, self-compassion extended beyond oneself to others, perhaps reflecting the caring nature of the nursing profession. It may be that this compassion helped participants cope with the mistakes they made when assuming new responsibilities—an important element of working on the frontline. This finding is particularly relevant given the CoP focus of this research, which seeks to identify key factors in supporting nurses after the pandemic. Compassion is an important therapeutic concept and forms the basis of Compassion-Focused Therapy (CFT), which is particularly effective for self-critical individuals[57]. CFT may prove valuable for interventions, as studies suggest it can help individuals develop PTG[58] and foster resilience by helping people understand and validate their emotional experiences[59].

Work-related individual differences such as self-efficacy (confidence in one's clinical skills) and dedication to one's role (satisfaction with nursing as a profession) were also present in the *a priori* template. Previous research has shown that both self-efficacy and dedication are linked to PTG in HCWs[33], and these findings were corroborated in the transcripts. Growth in participants appeared closely tied to their confidence in their professional abilities and dedication to their roles. Many spoke about their sense of what they excelled at. For some, this took the form of specific clinical knowledge, while others felt confident about their ability to support colleagues.

The theme of 'sense of duty' also emerged in this study. Participants spoke about volunteering for roles during the pandemic. One participant compared it to being "called to war," saying that if their country called them, they wouldn't quit. This metaphor offers insight into what motivated these individuals to put themselves in harm's way. Although it may have been assumed that nurses undertook their professional duties simply because it was their job, this finding suggests that many felt a strong sense of purpose. In choosing to expose themselves to such challenges, they may have been better able to navigate the adverse effects. Research suggests that a strong sense of duty and deriving meaning from work can reduce the psychological impact of traumatic experiences and serve as a protective factor[60].

The final new theme related to participants' previous experiences of difficulty and how these helped them develop coping mechanisms. Participants discussed past challenges in both their personal and professional lives and how they learned to manage them. This finding suggests that previous growth experiences may have equipped these individuals to navigate the difficulties they faced on the frontline. In overcoming prior challenges, they developed coping strategies and support avenues that proved helpful during the pandemic. However, the literature presents mixed findings on this idea. While pre-trauma coping styles have been shown to influence subsequent growth positively[61], previous difficulty has also been linked to higher levels of negative symptoms[62]. Additionally, experiencing multiple types of trauma has been associated with worse outcomes[63]. Research indicates that nurses, in particular, may have higher rates of adverse childhood experiences[64], which increases their risk of re-traumatisation[65]. Taken together, these findings suggest that effective support should involve trauma-informed leadership approaches[66]. Practitioners providing support to this population should consider the subjective nature of each individual's trauma in clinical practice.

4.2 Coping Mechanisms

The second major theme in the final template is coping mechanisms—strategies the participants used to alleviate distress and promote growth. While acceptance coping, characterized by resignation to uncontrollable situations, did not find explicit support in the accounts, it is possible that participants employed elements of this strategy indirectly. However, the data suggests that acceptance coping does not accurately capture the primary experiences of the participants in this study. Consequently, the structure of coping strategies has been adjusted from the *a priori* template to better align with the participants' accounts. New subordinate themes were identified and grouped into three main categories: problem-focused coping, emotion-focused coping, and meaning-focused rumination.

Problem-Focused Coping - Under problem-focused coping, several themes from the *a priori* template emerged, such as disclosure (sharing experiences with others) and help-seeking (seeking psychological support). These strategies align with existing research[10,14,37] and the Functional Descriptive Model (FDM)[67]. The FDM suggests that sharing one's experiences facilitates understanding and deriving meaning from trauma. Disclosure, especially through professional psychological support, appears critical in helping nurses recover from their pandemic experiences.

A new subordinate theme—boundary setting—also emerged under problem-focused coping. Participants varied in how they set boundaries, such as prioritizing mental well-being over work or choosing which tasks to undertake. Boundary setting may have helped participants reduce their exposure to trauma, aligning with research suggesting that an internal locus of control (belief in one's ability to control their environment) is associated with decreased

PTSD symptoms, increased resilience, and enhanced PTG development[68-72]. Boundary setting facilitates emotional regulation, self-care, and the development of healthy relationships, which are essential for PTG.

Moreover, boundary setting is linked to self-advocacy. Participants described standing up to management, refusing tasks they felt unqualified for or believed would harm them. This advocacy might have helped them avoid further traumatisation, illustrating how personal traits and coping mechanisms interrelate. This suggests that growth development can be conceptualized by examining the relationships between coping strategies, individual characteristics, and the larger environment.

Emotion-Focused Coping - Emotion-focused coping was another key theme, encompassing strategies participants used to manage the emotional toll of their experiences. This aligns with existing PTG research[33,36]. Specific emotion-focused strategies identified include mindfulness, emotional numbness, and avoidance.

Firstly, the new theme, mindfulness, was identified in the transcripts. Participants spoke about engaging in specific mindfulness practices or, more generally, described their need to be in nature or go on long walks to restore themselves. It supports the idea that mindfulness in interventions to increase PTG might be especially important for the nursing workforce. Indeed, mindfulness programs have been shown to be a promising tool supporting resiliency for HCWs[73].

Secondly, a new theme of avoidance, referring to employing strategies to avoid difficult emotions, was also identified in the transcripts. It is important to note that this theme differs from avoidance coping, denying or minimising difficulty, which is related to distress and depression[74]. Participants varied on the avoidance strategies they employed, which included watching TV to avoid thinking about work or choosing not to engage with the news about the soaring death rates. It would seem that participants had their own sense of what would be unhelpful to them or cause them further distress, particularly in their time outside of work. It may be that by not engaging in emotionally taxing activities and information, they could provide themselves with some level of protection by getting some respite from the difficulty they were experiencing in their professional roles. This is supported by research suggesting that avoidance can serve as an effective coping strategy in enhancing one's perception of their control over their environment[75].

Finally, while support was found in the accounts for peri-traumatic dissociation, this theme was modified to emotional numbness to better reflect participants' experiences. Peri-traumatic dissociation, a reaction at the time of trauma, includes dissociation, depersonalisation and out-of-body experiences that were not present in the accounts and have been associated with increased PTSD symptomology[76]. Instead, the accounts reflected that participants experienced a sense of numbness towards what they were witnessing that they felt was essential in being able to undertake their professional duties. This finding is congruent with research that indicates that emotional numbness may serve a protective function by reducing the emotional impact of experienced trauma[77]. As the participants, and indeed nurses more generally, are compassionate individuals, the ability to emotionally step back from their experiences may explain the mass exodus from the profession following the pandemic. It is possible that the ability to emotionally 'switch off' may be a necessary element in PTG development for this population. While it would be difficult and potentially unhelpful to aim interventions towards in-creasing emotional numbness, it is possible to consider the impact of witnessing distressing events and providing support to make sense of them. Indeed, a suggestion to policymakers put forward by the participants suggests a desire for increased opportunities to debrief after challenging situations at work.

Meaning-focused rumination, the final higher-order theme identified under coping strategies, relates to think-ing about one's experience in a way that modifies its meaning. It can be regarded as a cognitive process involving reconstructing schemas to accommodate trauma, which has been shown to promote PTG[78]. While the theme has been modified in accordance with the data in the transcripts, it is comparable to deliberate rumina-tion, a factor identified by PTG development studies undertaken on nurses during the pandemic[10], systematic reviews of PTG development research undertaken on nurses[17] and the FDM of PTG[31]. Support was found in the transcripts for two subthemes identified in the a priori template: challenging of core beliefs (referring to developing a renewed sense of meaning concerning one's values and identity) and narrative development (the act of restructuring one's story about their difficulty to allow for a new understanding of their experience through positive re-interpretation and cognitive re-appraisal).

The theme of challenging of core beliefs is supported by existing research[17,33,35] and the OVT of adversarial growth[79] that was introduced in the first chapter of this paper. The OVT of adversarial growth[79] stipulates that new information about the trauma must be cognitively assimilated so that existing schemas can be revised, changing an individual's world views[80]. Furthermore, challenging core beliefs and narrative development support the FDM[31], which posits that changed core beliefs and developing a new narrative in the wake of difficulty are critical elements in PTG development. It suggests that in disclosing to others, one can develop a narrative about

their experiences that contributes to a changed view of the trauma.

Spiritual Coping: A final theme under meaning-focused rumination, spiritual coping refers to finding comfort through religious beliefs. For one participant, their faith helped them conceptualize their distress as a divine test of strength, enabling them to navigate trauma. Although spirituality has been shown to foster PTG[81], this study found limited support for religion as a top-order theme. This lack of support may reflect broader societal trends in the UK, where religion is declining[82].

4.3 Organisational and Environmental Considerations

Participants highlighted how changes in NHS culture and practices during COVID-19 allowed them greater autonomy and opportunities for growth. Although none of the participants left nursing, many took on new roles, moved to bigger hospitals, or shifted into management positions. Some began supporting other nurses in their roles. While some participants attributed these changes to the upheaval caused by the pandemic and the brain drain from the profession, others saw their frontline experiences as driving these shifts. This suggests that the environment created by the pandemic played a critical role in participants' growth and offers lessons for future interventions aimed at promoting growth among nurses.

Support was also found for the theme of relatedness, which was modified to camaraderie to better reflect participants' experiences. Camaraderie permeated various aspects of participants' lives, both at work and socially. This sense of camaraderie was a shift from the norm, with some participants expressing regret that this unique dynamic was fading as the pandemic waned. The shared responsibility of patient care and long hours on the frontline contributed to the development of camaraderie. This finding suggests that initiatives aimed at fostering team cohesion—such as funding for team activities—could be particularly beneficial. Participants also suggested this to policymakers.

Joyful moments, such as when patients recovered or hospital numbers decreased, were celebrated collectively and fostered a sense of solidarity. These moments were deeply meaningful for participants, underscoring the importance of relatedness in nursing staff. This suggests that fostering camaraderie should be a key consideration in developing support initiatives for nurses after the pandemic.

While the theme of manageable workloads was not supported in the data, participants expressed a sense of pride and purpose in their work. Meaningful work has been shown to be an important factor in PTG[83] and aligns with existential theory of the pursuit of meaning as a primary motivational force. Participants also shared how recognition of their work boosted their confidence and self-efficacy, both of which are linked to PTG[84]. This sense of meaning, duty, and dedication to their roles helped nurses move into different specialties or senior positions in their careers.

Opportunities for learning and professional development were also key themes, reflecting the changes in the NHS during the pandemic. Participants regarded these opportunities as more accessible during COVID-19. The pandemic allowed participants to expand their knowledge of critical care, medicine, and nursing. These findings suggest that while vacancies may have contributed to movement within nursing, the pandemic also facilitated learning and development, enabling nurses to grow professionally.

Participants emphasized the importance of easy access to psychological support. They shared that this support, more readily available during the pandemic, helped them make significant realizations and fostered their self-development. While psychological support has been linked to PTG development[85], this study highlights how access barriers must be addressed. Participants noted that the demands of ICU nursing made it difficult to engage with support services. Interventions offering psychological support should address these barriers to ensure nurses can benefit from them.

The final organizational theme identified in the data was good leadership, supported by research on HCWs in the UK[16]. Several participants credited their ability to cope with receiving support and encouragement from leaders, being listened to, and having managers lead by example. For some, leadership support led to career changes and increased confidence, while being listened to had given them a sense of control. Managers who led by example created a sense of safety and camaraderie, fostering a shared purpose. These findings suggest that good management practices are crucial for promoting PTG in this population, which is supported by research indicating that effective leadership can buffer against stress[86]. Organizational research further shows that supportive leadership enhances productivity, trust, and employee motivation[87,88]. These findings suggest that leadership development programs should be considered in interventions aimed at promoting growth among nurses.

4.4. Interpersonal Factors

The final top-level hierarchical theme pertains to interpersonal factors, highlighting their importance in PTG development for nurses following frontline work. Participants emphasized the relational support they received from family and friends as essential in their ability to cope and process their experiences. While relational support is similar to social support, the study modified this theme to differentiate elements related to camaraderie and those of specific organizational concern in bringing about growth for nurses. Nonetheless, the two terms can be

used interchangeably when considering support themes in existing literature.

Another theme identified was community acts of kindness, providing specific insight into how the pandemic context contributed to growth development. During COVID-19, the difficulties faced by nurses were generally valued and recognized by the wider community. Various initiatives were introduced by individuals, groups, and communities to support nursing staff, including donations of supplies and goods, clapping on the street in support, and small gestures by shop owners who held back basic necessities for nursing staff. For example, Virgin cabin crew, who were furloughed during the pandemic, volunteered to provide psychological support for nurses by being available at the entrance of temporary COVID-19 hospitals. One participant who accessed their support mentioned how beneficial having this ease of access was, further supporting the need to address access issues in psychological support interventions.

Overall, participants expressed feeling acknowledged and valued by the community, expressing gratitude for the kindness they received. While replicating or recreating this support to foster growth post-frontline work might be challenging, these findings highlight the unique context in which participants were operating and the importance of varied sources of support and acknowledgment.

Finally, the theme of appropriate psychological support emerged as crucial. Participants found psychological support meaningful in helping them develop coping mechanisms and increase psychological well-being. This aligns with literature suggesting that psychological support is essential for PTG development as it provides coping strategies, validation of experiences, and opportunities for meaning making[89]. However, not all participants engaged in psychological support, and some expressed reservations about the modality of interventions received. Two participants who received Cognitive Behavioral Therapy (CBT) did not find it particularly beneficial, with one feeling too "smart" for it. This suggests the importance of tailoring psychological support to individual needs rather than assuming a single modality will be appropriate. In practice, this could involve considering presenting difficulties, previous experiences of trauma, coping strategies, treatment preferences and therapeutic goals when selecting an intervention. Consistent with the pluralistic values of CoP[90], approaches such as CBT, Acceptance and Commitment Therapy (ACT), CFT or existential therapy may therefore be considered according to individual needs and preferences.

4.5 Recommendations for Policymakers

The secondary aim of this research was to gain insights into practices participants believed should be considered by practitioners and policymakers to bring about growth for nurses negatively impacted by their frontline duties. Suggestions from participants supported findings from the primary research question and aligned with existing literature, emphasizing the importance of camaraderie[91], access to psychological support[10], good leadership[16], and relational support[11]. Additionally, the shift in NHS culture during the pandemic that allowed for greater access to training and development opportunities was also highlighted.

One key suggestion was the need for debriefing after particularly difficult situations at work. Debriefing is a well-established practice that has been shown to benefit both individuals and healthcare systems, as supported by research[92-95]. Participants provided important contextual insight into NHS working practices, helping policymakers understand potential barriers to intervention success. For instance, while social support is critical for PTG development[96], participants noted that post-pandemic, funding and autonomy for peer support initiatives had significantly decreased.

Participants also emphasized the importance of psychological support, consistent with existing research[97]. However, they highlighted several institutional barriers, such as stigma surrounding mental health and challenges related to ease of access, which could hinder successful implementation of support services. Research supports the idea that stigma among healthcare providers can delay help-seeking and create barriers to care[98]. To overcome these barriers, participants suggested keeping psychological support confidential, making services easily accessible (both in terms of location and referral process), and fostering a culture where discussing mental health is normalized. Furthermore, they recommended group therapy for nurses, given the shared responsibility for patient care. Research supports the effectiveness of group therapy in increasing resilience[99], improving stress coping[100] reducing burnout[101].

Staffing levels were another significant concern. While the pandemic exacerbated existing issues, participants noted that staffing levels were a persistent problem even before COVID-19. Research has shown that higher nurse staffing levels are linked to improved patient outcomes[102], lower mortality rates[103], and better clinical performance[104]. Furthermore, sufficient staffing has been shown to reduce rates of PTSD among nurses[105]. Without addressing these staffing issues, participants suggested that many proposed interventions would be unlikely to succeed due to the lack of time and resources. They also expressed concern that current low staffing levels were already limiting the success of initiatives designed to help nurses recover from the pandemic.

A particularly revealing finding related to what participants

described as the "culture of blame" within the NHS. This culture, which demands perfection from nurses and treats errors as moral failures worthy of punishment[106], was seen as fostering a lack of teamwork and leading to feelings of isolation. Participants observed that during the pandemic, this culture seemed to disappear, replaced by greater camaraderie and cooperation. Managers worked alongside staff, the traditional hierarchy was flattened, and nurses helped each other more readily. Participants expressed concern that this positive shift was fading as the pandemic receded, with the culture of blame re-emerging. The culture of blame has been linked to negative outcomes such as nurse suicide[107] and poor mental health. Participants felt that this punitive culture stifles growth, well-being, and the ability to take on more autonomy in their roles. Addressing this issue was seen as essential for fostering long-term support and growth for nurses.

Participants' insights into how the pandemic fostered a more supportive environment reinforce the idea that lessons learned during this time should be applied to future practice. For example, reducing hierarchical structures and increasing teamwork could help promote a positive work environment. These findings suggest that changes to NHS culture during the pandemic played a crucial role in fostering growth, and maintaining these changes could benefit nurses moving forward.

4.6 Overall Summary of Findings

The primary research question of this study—what elements led to PTG development in nurses who worked on the frontline during the pandemic—was addressed by the findings. Although the study did not aim to validate existing theories, using the *a priori* template helped identify elements of these nurses' growth experiences that align with established models such as the FDM[31] and OVT of adversarial growth[91]. While the FDM focuses on factors like narrative development, help-seeking, disclosure, and rumination, the OVT emphasizes environmental factors such as competence, autonomy, and camaraderie. These models complement each other by offering different perspectives on the growth process.

This study also identified new themes that have not been captured by previous research, particularly given the qualitative nature of the study. Quantitative research using standardized inventories may have missed key aspects of nurses' experiences. Themes such as nurses' reflective, self-aware, compassionate, and advocate natures, influenced by previous difficulties, emerged as significant contributors to growth. Similarly, coping mechanisms such as boundary setting, mindfulness, avoidance, emotional numbness, and contemplation of mortality emerged in participants' accounts as ways of managing their experiences alongside PTG.

The study also emphasised the importance of the pandemic-specific environment in facilitating growth. Environmental factors such as camaraderie, moments of joy, acts of kindness from the community, increased opportunities for learning and development, good leadership, and greater access to psychological support were key contributors to growth. These themes were echoed in participants' suggestions to policymakers, which included the need for funding support initiatives, increased access to psychological services, and efforts to reduce stigma around mental health. They also stressed the importance of long-term support for nurses and addressing the NHS's culture of blame.

4.6 Future Research Directions

While this study provides valuable insights into the factors contributing to PTG in nurses, there are several limitations to consider. One limitation is that participants may reflect on their past experiences differently after having experienced growth. However, as research on PTG relies on self-reporting or interviews with those who have experienced it, this limitation applies to most studies on PTG. Future research could conceptualize PTG as an ongoing process of self-discovery rather than a fixed outcome[108]. By viewing PTG as a process, the identified themes can be understood as part of the growth journey rather than definitive results.

Another limitation relates to the continued difficulties faced by some participants despite experiencing PTG. There are mixed findings in the literature regarding whether PTG and PTSD are separate constructs (Shand et al., 2015). While PTG can help individuals cope with distress, it does not eliminate the challenges they face. Some participants expressed discomfort with the positive framing of PTG, suggesting that a binary view of PTG and PTSD is unhelpful. PTG can lead to beneficial outcomes[28], but it is not a remedy for all the difficulties experienced by frontline workers.

The timing of the study may also have affected the findings. COVID-19 had no clear end point, and while its impact had lessened by the time of the interviews, some participants may not have fully processed their experiences. Had the study been conducted during the peak of the pandemic, participants may have described more immediate experiences of distress and coping, whereas later interviews may capture greater reflection and meaning-making. Research on the relationship between PTG and time is inconclusive[109,110], and participants' understanding of their growth may continue to evolve. PTG may therefore be better understood as an ongoing process rather than a fixed outcome, and longitudinal research could explore how these perceptions change over time.

Finally, the use of TeA in this study allowed for a flexible approach to analyzing the data, but the process

became more inductive than initially planned. While TeA is adaptable[20], the shift from deductive to inductive analysis resulted in findings that may align more closely with thematic analysis[111]. Despite this, the TeA approach allowed for a richer understanding of the nuanced elements in the data, making it a valuable method for capturing the complexity of PTG in this population.

5 CONCLUSION

This study fills a gap in the literature on growth development among UK nurses following the pandemic, contributing to global knowledge on PTG in healthcare workers. UK nurses, particularly those working within the NHS, faced unique challenges during the pandemic that affected their growth experiences, including burnout, retention issues, and excessive workloads. By exploring their lived experiences, this study provides essential insights into their specific needs and the factors that contributed to their growth. The findings suggest that PTG in nurses is influenced by a combination of individual characteristics, coping mechanisms, environmental factors, and relational support. Practical interventions—such as trauma-informed leadership and tailored therapy—could promote PTG in this population. Additionally, the study underscores the importance of learning from the pandemic's impact on NHS culture, particularly in addressing the culture of blame and improving access to psychological services. Future research could explore the effectiveness of the recommendations made in this study for fostering PTG and reducing the psychological burden on nurses. Quantitative studies could validate the themes identified here on a larger scale, offering further insights into the factors that influence PTG in nurses.

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Ethical Statement

Not applicable.

Conflicts of Interest

The authors declared no conflict of interest.

Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Author Contribution

Thomas AC concepted and designed the research and collected and analysed the data. Lusher JM supervised the project. Both authors drafted the manuscript, read and approved the final version of the manuscript.

Abbreviation List

ACT, Acceptance and commitment therapy
CBT, Cognitive behavioural therapy
CFT, Compassion focused therapy
CoP, Counselling psychology
FDM, Functional descriptive model
HCW/HCWs, Healthcare worker(s)
NHS, National Health Service
PTG, Post-traumatic growth
PTSD, Post-traumatic stress disorder
TeA, Template analysis

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